22. A CASE OF CANNIBALISM IN THE CATTLE-LEECH, *HIRUDINARIA GRANULOSA* (SAVIGNY)[1]

In November 1959 about 200 Cattle-leeches (*Hirudinaria granulosa*) were collected by us from a tank at Udipi (Mysore State) and kept in a glass jar containing fresh water for about three weeks. Later, while dissecting some of the specimens I was surprised to find in the crop of one of them (120 mm. long and 12 mm. broad) another leech of the same species. The latter (55 mm. long and 5.75 mm. in breadth) lay between the second and the eighth central chambers of the crop and was in a fresh condition.

As is generally known, leeches have their mouth adapted for sucking blood and can scarcely be expected to swallow solid food, not to speak of feeding upon another living leech presumably as active as themselves. As far as I have been able to ascertain, this is the first record of cannibalism in leeches.

DEPARTMENT OF ZOOLOGY,
M.G.M. COLLEGE, V. BALAKRISHNAN
UDIPI (MYSORE STATE),
April 6, 1960.

[Harding & Moore in THE FAUNA OF BRITISH INDIA, HIRUDINEA, 1927, say on p. 114 'predaceous leeches destroy large numbers of worms, including other leeches . . .'.—EDS.]

23. THE SYSTEMATIC POSITION OF *ISOLAIMIUM* COBB, 1920 (NEMATODA), WITH A DESCRIPTION OF A NEW SPECIES[2]

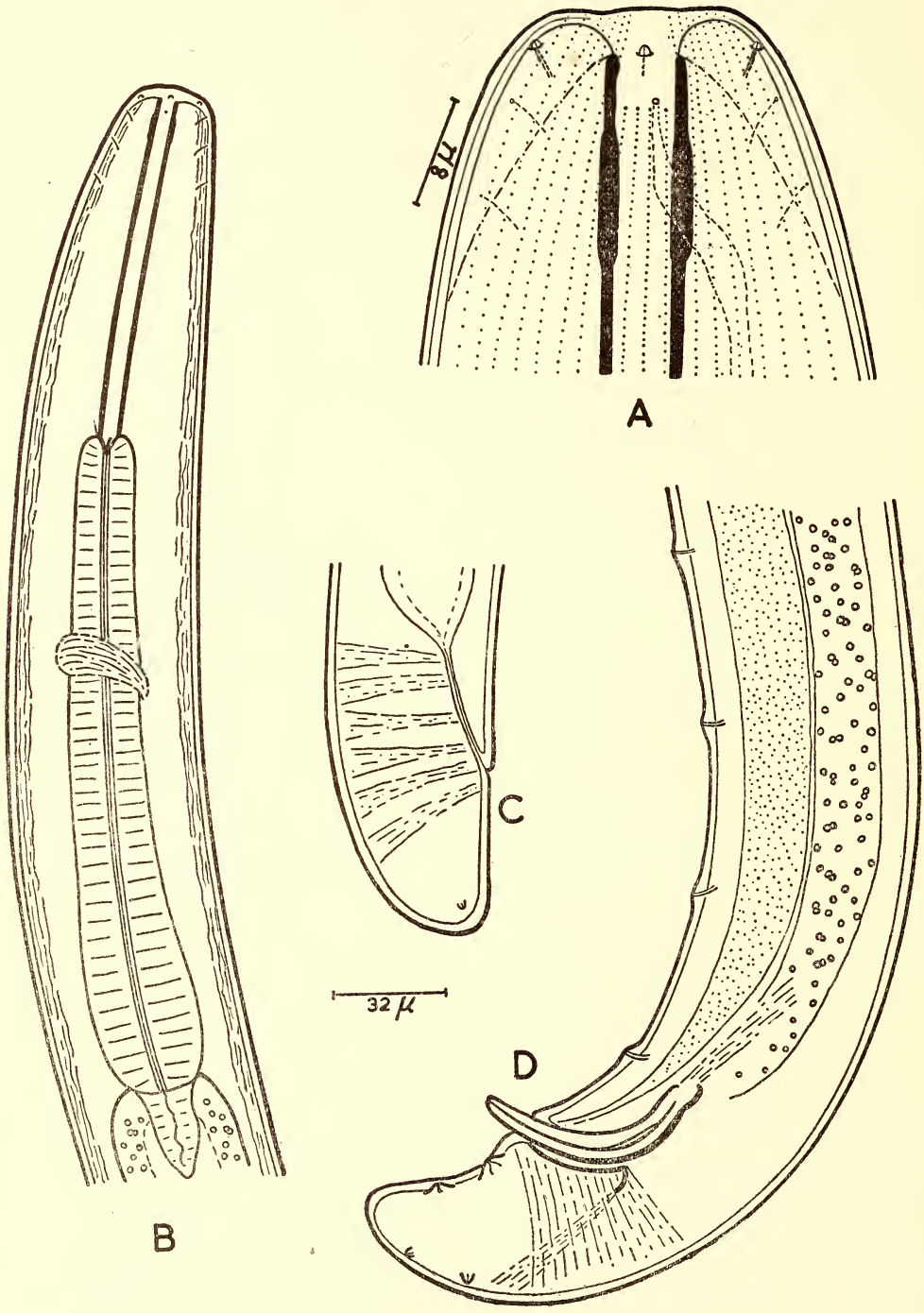
(*With one plate*)

A few females and large numbers of juveniles of a species of *Isolaimium* Cobb, 1920, were collected from the soil of a jute field in 1954. Additional specimens, including males, were found in 1960 in soil around the roots of jute and groundnut at Government Experimental Farm, Tajgaon, and around the roots of pineapple at Aminbagh, Dacca. The species is new and is named *Isolaimium stictochroum*.

Measurements were made of specimens after gentle heat fixation in water. The type specimens, however, were first mounted in glycerine and then measured.

[1] Communicated by Dr. Beni Charan Mahendra, Dept. of Zoology, Agra College, Agra.

[2] Communicated by Rev. H. Santapau, S. J., Bombay.



Isolaimium stictochroum n. sp.

A. Male head; B. Oesophageal region; C. Female tail; D. Male tail.

Isolaimium stictochroum n. sp. (Plate A-D)

Measurements :

3 ♀♀ : Length=2.87-4. 62 mm. ; a=47.8-70 ; b=9-16 ; c=80-102 ; V=46.2-55.8% ; Ov1=11.2-13.2% ; Ov2=10.3-15.3%.

6 ♂♂ : Length=4.11-5.4 mm. ; a=60-76 ; b=12-20.1 ; c=77.6-106.

Holotype female : Length=4.23 mm. ; a=62.1 ; b=12 ; c=78 ; V=47.6%. Stoma 160 microns.

Allotype male : Length=3.6 mm. ; a=67 ; b=16.5 ; c=75. Stoma 150 microns.

The specific name is derived from the Greek words στικτός and Χρόος, meaning ' with spotted skin '.

Description : Cuticle moderately thick, with two distinct layers visible ; fine close transverse striations in lower layer of cuticle ; prominent longitudinal lines on surface, about 60 in number, consisting of rows of fine dots, about 0.5 μ from centre to centre. Head not set off ; lips not distinct. Inner circle of 6 prominent, slightly recessed papillae, with distinct innervations ; outer circle of 4 tiny papillae. Fine sublateral innervations in anterior oesophageal region. Amphids tiny, pore-like, with obscure amphidial pouch twisting towards ventral side. Stoma cylindrical, with parallel walls, 108-160 μ long in male, 112-170 μ long in female ; walls thickened just behind anterior end ; apparently only thickened portion shed at moulting. Oesophageal region muscular, not distinctly two-part, extending to base of stoma ; expanded at base but not in form of distinct bulb ; triradiate lining heavily sclerotized and without expanded lumen at tips of radii. Oesophageal gland nuclei not observed. Nerve ring not prominent, oblique, located at about 50% of oesophageal length. Excretory cell and pore lacking. Oesophago-intestinal valve 22 μ long. Intestine with dark irregular granules, giving body a ' dirty ' appearance ; intestine light and tessellated in specimens collected at end of dry season. Prerectum apparently absent. Female reproductive system amphidelphic ; ovaries reflexed ⅓ to ¼ their length ; oocytes not distinct ; ova brownish with clear shell, 65 × 30 μ. Two testes in male, outstretched. Spicules somewhat dorylaimoid, cephalated, with internal division and blunt tips, 54-67 μ long ; lateral pieces absent ; gubernaculum 16-28 μ long, with thin posterior apophysis. 3-4 mammillate preanal supplements, more or less uniformly distributed. Tail in both sexes subconoid, about 1 anal body diameter long, bent slightly ventrally. 4 pairs postanal papillae on male tail : 1 large subventral pair just behind anus, 1 small subventral pair at mid-tail ; 1 small subdorsal pair at mid-tail, and 1 small subdorsal or lateral pair on posterior half of tail. Postanal papillae less distinct in female. Diagnosis : The present species differs from *Isolaimium papillatum* Cobb, 1920, the type and only other described species, mainly in the following characteristics : (1) the cuticle bears prominent longitudinal striations, as opposed to the naked cuticle of *I. papillatum* ; (2)

the male has 3-4 preanal supplements, whereas the male of *I. papillatum* has 6 supplements.

Holotype female : Personal collection, No. S 11.

Allotype male : No. S 12.

Paratypes (male and female) : No. S 13 and S 14.

Type habitat : Soil around roots of jute (*Corchorus capsularis* L.).

Type locality : Government Experimental Farm, Tajgaon, Dacca, East Pakistan.

Discussion : Cobb (1920) gave sketches of only the extreme anterior and posterior of *Isolaimium papillatum*. Since he could not clearly distinguish the amphids, the systematic position of the genus has been in great doubt. Cobb himself classified it in the Order Isolaimia ; however, other authors have not followed Cobb's classification into orders and it does not correspond even roughly to the current classifications. Filipjev and Schuurmans Stekhoven (1941) included *Isolaimium* as an aberrant genus of the Mermithidae, but the oesophagus and intestine are completely different from the true mermithids. T. Goodey (1951) placed it questionably in the Family Axonolaimidae, Subfamily Cylindrolaiminae, stating that the systematic position is ' rather obscure owing to lack of detailed information on form and structure '.

Another possible placement for the genus, based chiefly on the long cylindrical stoma and the oesophagus, is in the Subfamily Cryptonchinae of the Family Ironidae. However, it seems best to propose *Isolaimium* as an aberrant genus of the Superfamily Dorylaimoidea. The thickened triradiate oesophageal lining, the oesophago-intestinal valve, the male supplements, the spicules, and the caudal papillae are all basically of the dorylaimoid type. The large size of the body, the short blunt tails, and the lack of an excretory cell and pore further strengthen this affinity. On the other hand, the amphids, which are an important diagnostic feature in classification, are not dorylaimoid. Pore-like amphids, however, occasionally appear in various groups by way of exception to the normal type. The greatest difference between *Isolaimium* and the typical members of the Dorylaimoidea is the lack of a stylet. In one moulting specimen that we observed, apparently only the thickened anterior portion of the stoma was being shed. This might correspond to the axial stylet of most dorylaimoids or to the vestibule of those forms possessing a mural stylet. Moreover, the Alaimidae, considered by many authors as a family of the Dorylaimoidea, completely lack both stylet and stoma.

NOTRE DAME COLLEGE, R. W. TIMM
DACCA, EAST PAKISTAN,
September 17, 1960.

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24. *MOMORDICA DENUDATA* CLARKE (CUCURBITAC.) AND *TREMA POLITORIA* PLANCH. (ULMAC.) : NEW RECORDS FOR BOMBAY

In our exploration of Pavagadh Hill, 46.6 km. NE. of Baroda, we have come across *Momordica denudata* and *Trema politoria* which are not listed in Cooke's FLORA OF THE PRESIDENCY OF BOMBAY.

Momordica denudata (Thwait.) Clarke in FBI. 2: 618, 1879; Cogn. in DC. Monog. Phan. 3: 448; Trimen, Fl. Ceyl. 2: 249; Chakravarty, Mon. Ind. Cucur. 98, f. 40, map 47, 1959.

M. dioica var. *denudata* Thwait. Enum. Pl. Zeyl. 126, 1858-64.

A slender climber; stem glabrous, furrowed. Tendrils slender. Leave 7-8×6-6.5 cm., membranaceous, ovate-cordate, mucronate-acuminate, dentate, slightly rough to the touch, some of the leaves appear to be three-lobed, 5-nerved, petiole 3-4 cm. long. Flowers yellowish, dioecious. Male peduncle many-flowered. Female peduncle 1-flowered, 1-2 cm. long. Fruit slightly globose, rostrate.

Flowering and Fruiting: 12th July 1959.

At the foot of the hill on a hedge; rare.

Index Kewensis gives Ceylon as the home of this plant. The plant seems to be endemic in S. India.

Trema politoria Planch. in Ann. Sc. Nat. (ser. 3) 10: 326, 1848; FBI. 5: 484.

Celtis politoria Wall. Cat. no. 3693, *nom. nud.*

A small tree; bark brownish, branches clothed with rough hairs. Leaves 4-5×2.5-2.7 cm., stipulate, 3-4-nerved, alternate, oblique, presence of bristly hairs, ovate, minutely cordate, serrate, petiole 2-3 mm. long. Flowers in axillary cymes, compact, not longer than the petiole.

Flowering and Leafing: 12th August 1958.

In the forest, in lower part of the hill; rare.

Index Kewensis gives Reg. Himal. as the home of this plant.

The specimens referred to in the present note were collected by